ed out in conjunction with the laboratory work. Many of the specimens are beautifully adapted to show the difference between the white and gray matter, many nerve tracts being readily traced.

A certain amount of work is assigned for each laboratory period and when that is mastered, each student recites and demonstrates to the teacher the parts under discussion as they appear in the specimens before him.

After the brain dissection is completed a review quiz is taken and the card is signed up.

The remaining two months of the semester are occupied in the study of the spinal nerves and sympathetic system, eye, ear and nasal cavities.

During the whole course the embryology of the first year is constantly referred to.

There can be no doubt but that the teachers in the anatomical department are kept busy, and that the students have ample opportunity to become proficient in their anatomy.

Different text books have been used and the general consensus of opinion is in favor of Gray, in combination with a dissecting manual, such as Barkers.

TOBACCO AMBLYOPIA (FROM CIGARS) IN A WOMAN.*

By WALTER SCOTT FRANKLIN, M. D., San Francisco.

K. K., a native of Sweden, single, 52 years old, a woman of refinement and education, consulted me February 19, 1908, for failing sight.

Her family history showed nothing of importance. She has had the usual diseases of childhood, otherwise no serious ailment until the present. Uses tea and coffee moderately, does a large amount of brain work and was not questioned in regard to the use of tobacco.

Patient could not state definitely how long her sight has been failing. She remarked that it was difficult to distinguish gold from silver coins and on two occasions had given a five-dollar piece in place of a nickel. At no time has she had any pain either within the head or eyes. One week ago she realized how poor her sight had become and until that time had attributed her failing vision to advancing age, expecting to have same corrected with a pair of glasses.

The following is the examination: Head well shaped, face comparatively symmetrical. Eyes deep set in orbits. Palpebral apertures equal, lids normal. Movement of eyes good, lids closely followed the rotations of the globe. Conjunctivae and corneae negative. Pupils moderately large, equal, reacted sluggishly to light, normal to convergence and consensually.

The lenses and media were clear, the changes on the discs being the only ophthalmoscopic findings. The discs were distinctly paler and somewhat shallow on their temporal quadrants. The retinae were absolutely negative, the blood vessels normal.

Corneal astigmatism was one diopter with the rule in either eye, the retinoscopic findings being hyperopia one D vertically and 1.75 D horizontally. Tension of globes normal; not sensitive to deep pressure.

Vision was reduced to counting fingers at six feet with the right eye and at five with left. The correction did not improve the vision.

The reduced vision and the circumscribed paleness of the optic discs on their temporal sides led me at once to suspect a toxic amblyopia in an advanced stage. When questioned in regard to the use of alcohol or drugs her denial was positive. This led to the question of tobacco and much to my surprise she admitted smoking cigars. For the past two years patient has been smoking from six to eight domestic cigars daily. She has never used a pipe or cigarettes and though impressed with the seriousness of her condition denied the use of alcohol. It is true that people ordinarily deny drinking, being somewhat ashamed of the confession, but in this case the admission regarding smoking and the character of the woman make it morally certain that her answers were correct.

Her field of vision showed a relative central scotoma for form and an absolute central scotoma for red and green. The scotoma made an oval from Mariottes blind-spot to the macula.

I was able to demonstrate hemeralopia and with a number one London smoked glass her vision was sensibly improved.

Owing to the reduced vision, the absolute scotomata and the pallor of the discs, the prognosis for central vision was not favorable.

The total abstaining from tobacco was impressed upon the patient, strychnine was injected hypodermatically and potassium iodide in large doses given internally.

The sight has gradually but steadily improved, the scotoma for white or form being absent, that for red and green still remaining in a relative sense, but difficult of demonstration.

On September 5, 1908, patient's condition was as follows: Exterior of eyes negative. Pupils slightly larger than the average and reacting comparatively quickly to light, etc.; papillae still show a paleness on temporal third, the nutrient vessels standing out as thin lines and a distinct shallowing being noticeable. Vision being 20/30th with either eye alone, and 20/20th minus with the correcting lenses, i. e., practically normal vision. Field as denoted above.

Beer first called attention to tobacco as an eiological factor of amblyopia in the beginning of the nineteenth century. His observations were unnoticed until Mackenzie in 1854 again remarked this point, and it was not until the sixties and seventies that the writings of Hutchinson, Forster, Nettleship and others gave it prominence.

The pathological changes in the optic nerve due to tobacco are identical with those caused by alcohol and the mixed intoxication of alcohol and tobacco. A peculiar predilection is shown for the papillo-macula bundle of fibers lying in that portion of the nerve between the globe and the optic foramen. The inflammation is purely interstitial in character, is limited to the central bundle of fibers and brings on atrophy by the subsequent cicatricial contraction. These pathologic changes account accurately for the clinical signs, the loss of central vision, and show how guarded the prognosis must be when examining a case giving evidence of the atrophic state of these fibers, remembering that atrophied nerve fibers do not regain their vitality. The paleness of the disc, before the state of atrophy, is caused by a relative devitalizing effect on the fibers from the inflamed and swollen interstitial tissue. Complete atrophy is the end of the inflammatory state and results in permanent loss of central vision, though the peripheral sight may remain unchanged. A number of isolated cases of complete atrophy of the optic

* Read at the San Francisco Society of Eye, Ear, Nose and Throat Surgeons, September 17, 1908.

nerve following the misuse of tobacco have been reported, but those having large clinical facilities deny its existence. Most likely it is a complication of atrophy from spinal origin. Others have described the lesion as beginning at the macula and the neuritic atrophy as secondary to this.

Various authors have questioned the occurrence of a purely alcohol or tobacco amblyopia, claiming that a mixture of these two is necessary for the above changes to come on. It has been shown that either alone may produce this typical change. Uhthoff, in 327 cases of intoxication amblyopia, found 41 due to tobacco alone, the remaining 286 being equally divided between alcohol and the mixed use of these two.

No clinical differentiation is possible between the intoxication of tobacco alone, alcohol alone or the mixed form. Although claimed that tobacco caused the neuritis to begin in one eye before the other this is not characteristic of the drug. A positive differential diagnosis can not be made either by the character of the scotoma or the course of the symptoms. According to Martin the pupil is contracted in the tobacco cases and dilated in those due to alcohol, but this is not certain and in my case the pupil was moderately dilated.

Very few experiments have been undertaken on animals with nicotine, and the results of those few unfortunately vary with different observers.

Men have no particular predisposition toward toxic amblyopia, the large majority of cases occurring in the male sex being due to a wider misuse of tobacco and alcohol among men than among women. Still, in women, the amblyopia is generally of the mixed form and my case comes under the heading of a pure nicotine neuritis.

As most cases come on between the ages of 35 and 55, Fuchs observes that one's tolerance toward tobacco diminishes with years. Cases occurring in very young adults are suspicious of hereditary neuritis optica.

Unfortunately no statistics are available showing the percentage of strong smokers who get tobacco amblyopia. Among polyclinic eye cases the percentage of pure nicotine amblyopia varies from 0.04 to 0.13 of one per cent. This percentage is presumably greater in certain countries and in private practice.

According to Lewin cigars cause the largest percentage of toxic amblyopia, then follow in descending order cigarettes, pipes and the Turkish hookar or water pipe.

The particular use made of the tobacco has no direct influence on the neuritis as chewing, inhaling, swallowing the smoke, cold smoking, etc., have all produced their cases.

Tobacco contains from 2 to 8 p. c. of nicotine, depending upon the nativity, grade and freshness of the plant. The Havana tobacco of good grade and light color contains the least nicotine while the cheap domestic brands are higher. Ordinarily green or wet tobacco has a higher percentage of nicotine than the dry forms.

The amount of tobacco smoked daily necessary to produce toxic amblyopia varies from 30.0 gm., the figure of Hirschberg, to 15.0 gm., as given by Groenouw. Taking this roughly as containing 4% of nicotine, we find that it is necessary to smoke approximately from 0.75 to 1.0 gm. of pure nicotine a day in order to produce a toxic amblyopia. But, of course, the total amount of the nicotine contained within the cigar does not enter the smoke, and it has been calculated that about 17% is carried this way. Every puff makes the cigar stronger, as the smoke is filtered through the entire portion of the remaining cigar, hence the one who throws away the last quarter or end piece avoids, according to Theodorovits, approximately 50% of the entire amount of nicotine. This applies to cigarettes also, and it is well known how the Spaniards throw away their cigarettes after taking but a few puffs. The above quantity of nicotine is contained in 7 to 8 of the cheaper domestic cigars and about 10 or 11 of Cuban, or approximately 60 cigarettes.

The brand of cigar smoked by the patient reported was a domestic article, the filler being from the cheapest grade of Cuban tobacco and the wrapper seed tobacco.

V. Jaksch reports a case of death in a young adult from 0.05 gm. of pure nicotine, showing what a powerful poison this is.

It has always been a source of wonder to me how an intelligent person could allow a reduced vision to go unnoticed. This applies particularly to the case above where the patient allowed the vision to fall to approximately 1/400 of the normal without applying for relief. The explanation lies in the insidiousness of the attack and the absence of pain. Most patients complain of a slight haze or fog in front of the eyes, and those wearing glasses attribute same to the glasses, mentioning that they would clean their glasses four or five times a day, not realizing that the trouble was in the eye. The day blindness, hemeralopia, is usually not real, as in my case, but due to the excessive light of the sun causing blending. The diminished light of night causes the pupil to dilate, brings a larger portion of the retina into the central field and thereby gives the impression of better vision.

The diagnosis is made by the reduced vision, the paleness of the temporal quadrant of the disc and the central scotomata. The latter are in the beginning but relative for colors, then for form and vary toward all degrees of the absolute depending upon the stage of the neuritis.

In a large number of cases the complete stopping of nicotine will effect a cure. This should be impressed upon the patient, and it is found that those suffering from nicotine will more readily stop smoking than the alcoholic subject give up his drinking. Hence, the outcome is more favorable from the tobacco cases than from those due purely to alcohol or the mixed use of these two drugs. Smoked glasses, potassium iodide, strychnine, electricity, etc., have all been used and with good result.

I have purposely avoided mentioning the other changes occurring in the eye and other portions of the system from tobacco and alcohol, limiting my paper to the chronic retro-bulbar neuritis. Other drugs capable of producing similar changes to the above are strammonium, cannabis indica, chloroform, chloral, opium, bi-sulphide of carbon, nitrobenzol, arsenic, lead, iodoform, and the toxin of diabetes.

A CASE OF PYLORIC STENOSIS IN THE NEWLY BORN.*

By HENRY J. KREUTZMANN, M. D. San Francisco.

On Sunday, the 10th of May, 1908, at 9:40 a. m., a baby boy was born to Mrs. A. E. in this city. Incidentally I might mention that about two years ago I had performed Alexander's operation upon the lady for retroversion and slight descensus of the uterus. Pregnancy (it was the first) was without mishap; the lady is of short stature, but her pelvic measurements being normal, delivery occurred without any difficulty in shorter time than usual, owing to a strong, muscular physique of parturient. The baby was perfectly normal; its weight at birth was 7¼ pounds, it acted in every way as a perfectly normal baby; it took the breasts and showed a phenomenal development, gaining 7 ounces the first week, 10 ounces the second week, and eleven ounces the third week after birth. On the eleventh day of its life I performed circumcision, the urethral opening in the prepuce being rather small.

When two weeks old the baby vomited for the first time. This vomiting, coming shortly after circumcision, was attributed to the disturbance brought about by the little operation. The next day the baby vomited again, once a day, then twice a day, then oftener. The vomiting occurred at first after the same meal, at 6 a. m.; this same 6 a. m. vomiting was kept up all along; to it was added another and another; finally the baby vomited also in the night time, which before he had not done; before he had kept all his night meals well. The vomiting took place soon after nursing; the quantity varied, also the manner, being sometimes the usual throwing up, at other times more forceful. There was considerable gas belched and passed per rectum. The passages were frequent but very good in consistency and color. The baby was sleeping, resting, gaining; for this reason no weight was attached to his vomiting for some time.

When the baby was just three weeks old, I saw for the first time the baby vomiting; it was soon after a meal; he had taken the breast very energetically and when he vomited, milk, partly coagulated, was expelled with a great deal of force, passing even through the nose. I was astonished and somewhat perturbed over this sort of a vomitus; but the baby appearing without any distress, I consoled myself with the old adage: "Babies who throw up —grow up," or I rather had in my mind the German word, Speikinder—Gedeihkinder, which means the same.

Under the circumstances, the baby thriving, sleeping and gaining, I did not oppose when the family wished to go to their summer home in Menlo Park. The trip was made in an automobile the next day, Monday, the baby sleeping on the way. After the arrival in the country the baby vomited more and began to show some restlessness; so Dr. Harry B. Reynolds of Palo Alto, to whom I had referred the family, was called. When the patient did not sufficiently improve under his treatment with change in diet, physics, lavage of the stomach and rectal feeding, I was called and I saw the baby on Tuesday, June 10th, in the forenoon, six days after the first visit by Dr. Reynolds.

At our first consultation the question of pyloric stenosis was not taken up. The baby was fairly well nourished yet; the inspection of the child failed to show anything peculiar; we looked upon the case as one of disturbed digestion, hard to explain though in its etiology. When after thirty-six hours of absolute inanition and continued vomiting, the baby was seen again, we both agreed that the case was one of stenosis of the pylorus. I felt distinctly the tumor in the region of the pylorus; but even then the distention of the stomach was not great, probably because nourishment was withheld at the time before examination.

To be prepared for every emergency the baby was removed to the Adler Sanitarium in this city the next morning, June 12th, 1908. Dr. Langley Porter was called in consultation, and from that time on we treated the patient conjointly.

During our observation the case presented a typical picture of pyloric stenosis in a baby, as characteristic as ever one has been described. Temperature kept normal, pulse at times rather rapid and weak. Patient vomited everything that he had occasion to. No fecal matter was discharged per rectum, only the residue of rectal feedings, mixed with bile stained secretion of the intestines. The urine became very scanty, concentrated, the salts of uric staining the diapers blood red. The supra-umbilical region was greatly distended, bulging; the distention was due to the stomach; at times the antiperistaltic waves of the stomach could beautifully be seen. The infra-umbilical region appeared insignificant. At times, not always, a button-like hardness could be felt in the region of the pylorus.

Our next effort was to keep the baby alive. He was kept warm, handled as little as possible; olive oil, later sweet lard, was rubbed into his skin, and alimentation carried on through his rectum. Besides this general idea of preserving his vital forces as much as possible, we resorted to three distinct attempts of therapeutic measures, calculated to overcome the pyloric stenosis.

1. Acting on the idea that the contents of the stomach, either gastric secretions or ingested food, was producing the obstacle through irritation, the stomach was washed, weak predigested whey, or Vichy water was given; no result.

2. The patient was at times very restless, appar-

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